

WHAT IS CLAIMED IS:

Jabot ↗ 1. An injection control method for a die-casting machine, wherein molten material is injected into a casting mold by an injection cylinder unit, comprising the steps of:

setting target velocity data specifying injection operation required for the injection cylinder unit in advance;

performing the injection operation actually, and recording command data given to the injection cylinder unit and detected velocity data indicating the operation performed by the injection cylinder unit during the injection operation;

calculating a correction value from a difference between the detected velocity data and the target velocity data, correcting the command data for the previous injection operation by the correction value, and generating the command data for the next injection operation; and

operating the injection cylinder unit by giving the generated command data at the time of the next injection operation.

2. The injection control method for a die-casting machine according to claim 1, wherein

the correction value is obtained by operating the injection cylinder unit a predetermined number of times by the ordinary injection position feedback control, and

thereafter, the control is shifted to open loop control of injection velocity by command data generated from the correction value and the previous command data.

3. The injection control method for a die-casting machine according to claim 1, wherein

a value of servo delay in the injection cylinder unit is set in advance, and

in calculating the correction value, the difference between the detected velocity data and the target velocity data is calculated in a state that the phase of the detected velocity data is advanced by the servo delay.

4. The injection control method for a die-casting machine according to claim 3, wherein

adjustment of the servo delay is made for each of low-velocity section, high-velocity section and deceleration section of injection operation.

5. The injection control method for a die-casting machine according

to claim 1, wherein

in setting the target velocity data, a pattern in terms of position and velocity for specifying injection operation is set in advance by a user, the pattern being converted into time-series position command data in terms of position and time so as to be used for injection position feedback control, as well as the pattern being converted into target velocity data in terms of velocity and time.